On the Dynamics of Social Media Popularity: A YouTube Case Study

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Understanding the factors that impact the popularity dynamics of social media can drive the design of effective information services, besides providing valuable insights to content generators and online advertisers. Taking YouTube as case study, we analyze how video popularity evolves since upload, extracting popularity trends that characterize groups of videos. We also analyze the referrers that lead users to videos, correlating them, features of the video and early popularity measures with the popularity trend and total observed popularity the video will experience. Our findings provide fundamental knowledge about popularity dynamics and its implications for services such as advertising and search.

1. INTRODUCTION

User generated content (UGC) has emerged as the predominant form of online information sharing nowadays. The unprecedented amount of information being produced is one of the driving forces behind the success of the social media phenomenon [Kaplan and Haenlein 2010; Cormode and Krishnamurthy 2008]. This phenomenon is a shift from the traditional media where, instead of content being produced mostly by a few selected individuals, anyone, in theory, can produce and share content online. However, the "information overload" that accompanies the huge amount of social media being produced has its drawbacks. For example, it is ever-so-difficult to find and filter relevant content to oneself. Nevertheless, some pieces of content (or *objects*) succeed in attracting the attention of millions of users, while most remain obscure. This leads to the heavy tailed characteristic of content popularity [Sinha and Pan 2007; Clauset et al. 2009], where a few objects become very popular while most of them attract only a handful of views. *What makes one particular object become hugely popular while the majority receive very little attention? Which factors affect how the popularity of an object will evolve over time?* These are major questions in the social media context that drive our present work.